



Evidence against phonological and phonetic feature priming

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BACKGROUND

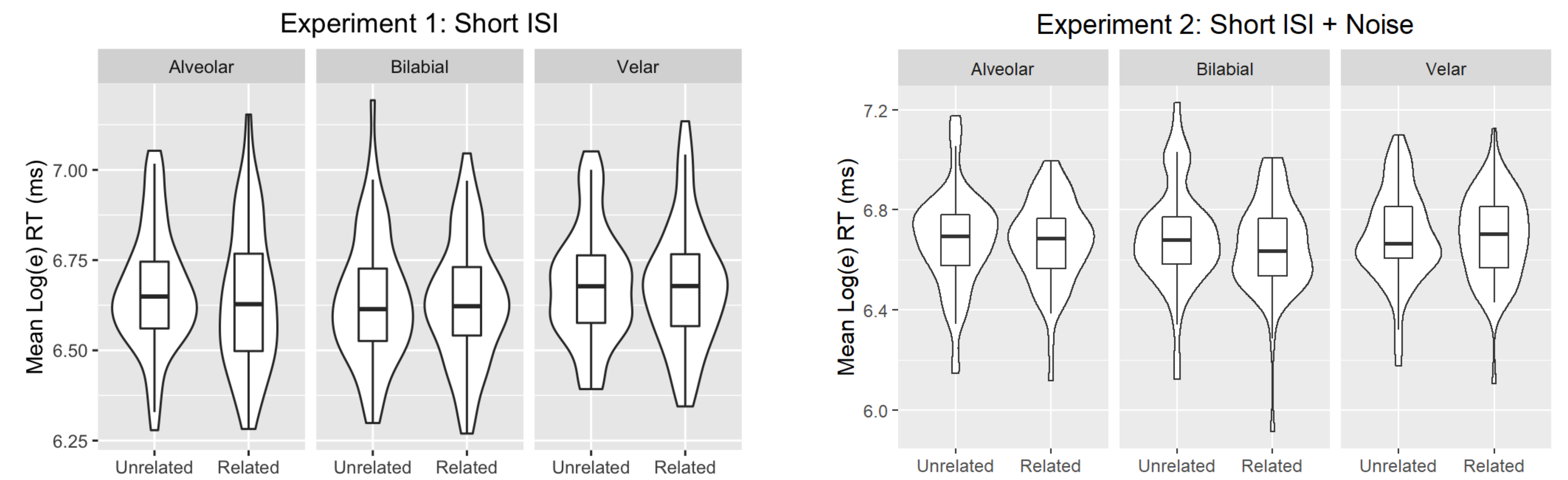
- Priming effects for *phonological* representations are inconsistent and task-dependent (Dufour, 2004; Goldiner, 1999; Slowiaczek et al., 1987)
- Durvasula & Parrish (2019) find no effect of phonological feature priming and suggest priming is not a useful tool for these representations
- *Phonetic* priming may only be possible with shorter inter-stimulus interval (ISI~50ms) or a degraded stimulus (Goldinger, 1998)

We extend recent null findings for phonological priming to test for phonetic priming

We use a shorter ISI (Exp 1) and present the stimulus in noise (Exp 2)

MAIN RESULTS

	POA	Log _e RTs (ms)		
		Related	Unrelated	Diff
Experiment 1	Alveolar	6.68	6.70	-0.02
	Bilabial	6.67	6.68	-0.01
	Velar	6.76	6.73	0.03
Experiment 2	Alveolar	6.67	6.67	0.00
	Bilabial	6.65	6.68	-0.03
	Velar	6.69	6.69	0.00



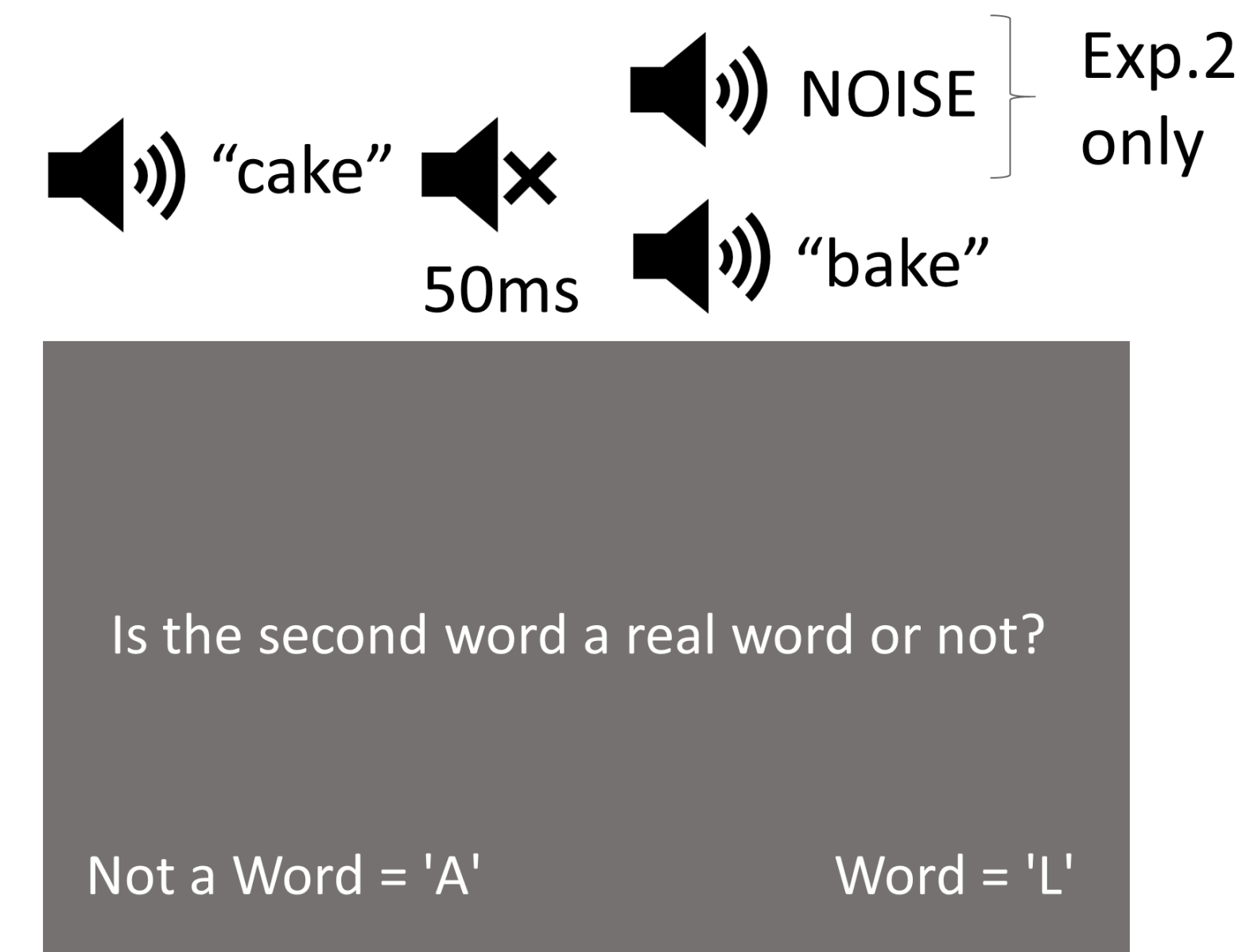
No evidence of priming within any POA for both Experiments 1 & 2

STIMULI & PROCEDURE

Example stimuli for Experiments 1 & 2

POA	COND	Prime	Target
Alveolar	Related	time	dime
	Unrelated	cot	dot
Bilabial	Related	bad	pad
	Unrelated	guest	pest
Velar	Related	cap	gap
	Unrelated	bite	kite

- Exp1: 62 participants; Exp2: 60 participants
- Lexical decision task; 75% accuracy cutoff
- Participants only responded to the target token
- Stimuli: 84 pairs of rhyming monosyllabic words
- Fillers: 144 pairs of rhyming words & nonwords



- Exp1: Stimuli presented in the clear
- Exp2: Stimuli presented with white noise; 70:65 signal:noise ratio.

SUMMARY OF FINDINGS

	Fixed Effects	BIC	χ^2	df	Pr(> χ^2)
Experiment 1	Intercept	2076			
	1 + COND	2084	0.30	1	0.58
	1 + POA	2090	3.00		
	1 + POA + COND	2098	0.33	1	0.57
	1 + POA + COND + POA*COND	2114	0.35	2	0.84
Experiment 2	Intercept	2019			
	1 + COND	2026	0.77	1	0.38
	1 + POA	2035			
	1 + POA + COND	2042	0.84	1	0.36
	1 + POA + COND + POA*COND	2058	0.62	2	0.73

Summary

- Experiment 1 – No clear effect of POA priming, even at a short ISI
- Experiment 2 – No clear effect of POA priming, even in noise
- Bayes Factor comparisons: “strong” evidence (Wagenmakers, 2007) in favor of the null model in both experiments

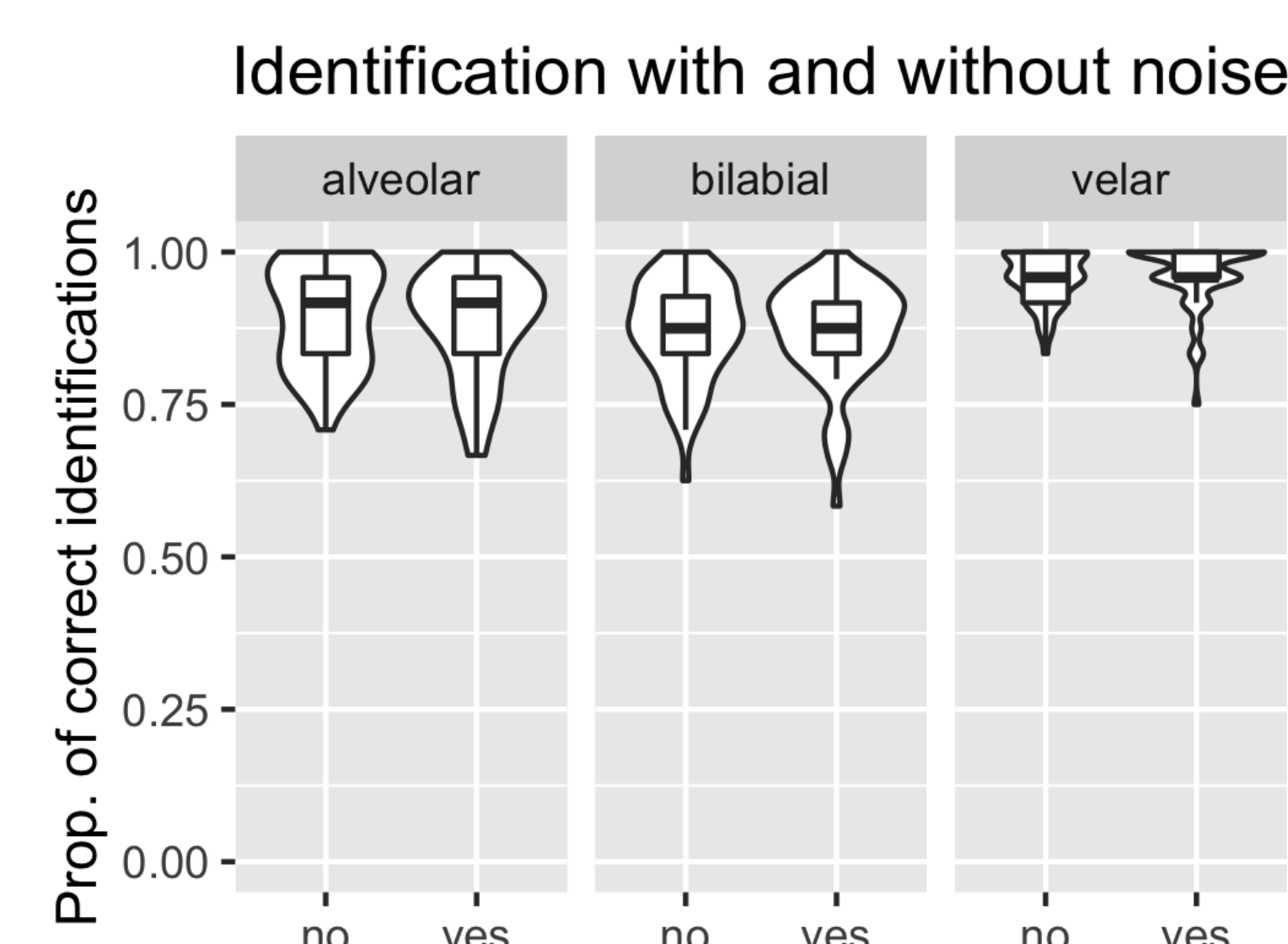
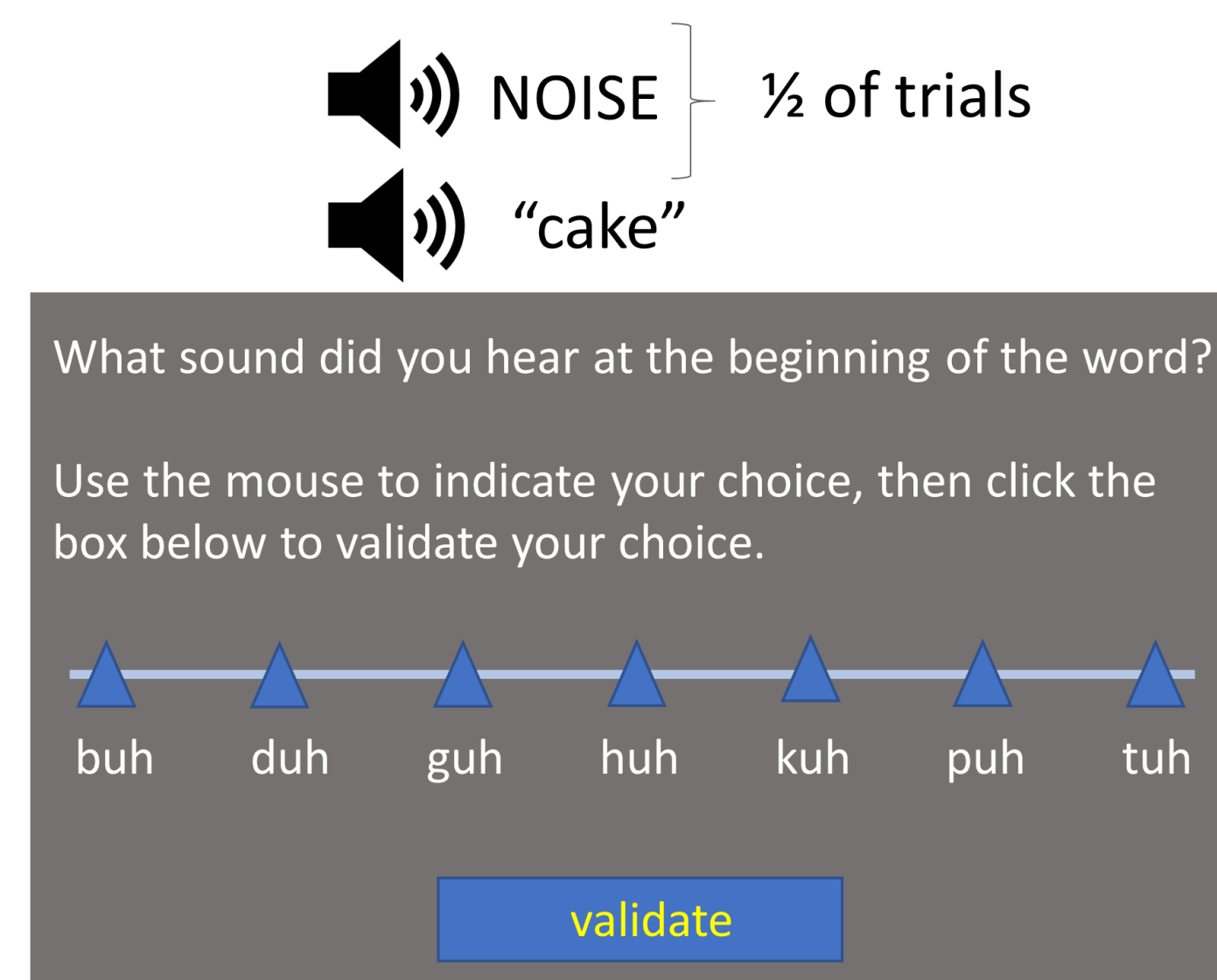
Future studies

- Extend to different phonological representations (e.g., manner)
- Test sensitivity to priming using even more passive methods (e.g., EEG)

CONTROL TASK FOR EXPERIMENT 2

Sound ID task

- Immediately followed Experiment 2
- All experimental target items included
- Included 3 h-initial fillers
- Each item presented once in noise, once not in noise



CONCLUSIONS

Priming is not an appropriate tool for probing phonological representations.

Stronger claim: given our stimuli and comparisons, there may be no real priming of even *phonetic* features.

In English, there is no clear evidence of *subsegmental* priming at all.

SELECTED REFERENCES

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